

Traffic Control Task Force Meeting
July 28, 2004
Commission Room
Montana Department of Transportation

In Attendance:

Paul Jagoda, MDT
Bill Fogarty, MDT
Chris Connors, Omo Construction
Suzy Althof, MDT
Mark Baum, MDT
Jeff Hollenbeck, United Rental
Kerry Gray, Highway Specialties
Terry McIntyre, United Materials
Craig Genzlinger, FHWA
Lloyd Rue, FHWA
Cary Hegreberg, MCA
Lisa Durbin, MDT
Shane Worley, Rocky Mountain Traffic Control
Kevin Kitchin, Omo

Introductions were made. Paul explained that the reason for this meeting is to improve working relationships, brainstorm for ways to better manage traffic control costs while ensuring safe work zones for the traveling public and workers, and to discuss concerns and create a joint plan to resolve any issues that might exist.

The MDT Engineering Division conducted a 2004 Consumer Satisfaction Survey and Paul read parts of the survey that related to construction traffic control. Following are some highlights of this report:

- Very large percentages of Montanans agreed that MDT is meeting the following objectives within construction zones:
 - Safety is more important than convenience in construction zones;
 - Warning signs for construction zones appropriate; and
 - Speed limits in construction zones clearly marked.
- Montanans give the highest performance grades to:
 - Providing and marking detours;
 - Convenience of travel through construction projects.
- Montanans say the most serious perceived transportation system problems are;
 - Wildlife along roadways;
 - Traffic congestion; and
 - Travel through construction zones.
- Montanans give MDT performance in construction zones a B- grade.
- Montanans agree that MDT is meeting specific performance objectives in construction zones.

Some of the MDT overall performance and construction zones grades (%):

- Providing and marking detours: A or B =69.5% and C=22.9%.
- Convenience of travel through construction projects: A or B =59.7% and C=31%.
- Minimizing inconvenience caused by projects: A or B=50.6% and C=33.2%.

Respondents were asked to agree or disagree with the following statements about highway construction:

- Safety more important than convenience in construction zones: 95.9% agree.
- Warning signs for construction zones appropriate: 91.5% agree.
- Speed limits in construction zones clearly marked: 87.1% agree.
- Signs in construction zones easy to read and understand: 84.3% agree.
- Travel lanes in construction zones clearly marked: 77.1% agree.
- Delays associated with construction are short: 60.7% agree.

Paul thanked everyone for the hard work they have done to make these ratings and noted there are areas we still need to improve on.

MUTCD Update on Arrow Boards.

Lloyd Rue discussed the changes to the use of the arrow boards in the new MUTCD. These changes would eliminate arrow board use for crossovers.

MDT needs to determine what they will do with these changes and how they will affect our detailed drawings. MDT can also team up with other states and try to get this requirement changed in the MUTCD.

Mark Baum and Lloyd Rue will take the lead on MUTCD update on arrow boards.

Drop Dead Date for Traffic Control Devices to meet NCHRP 350.

Mark reported that there is a federal requirement to ensure applicable work zone traffic control devices meet NCHRP 350 by early 2005. January 15, 2005 has been selected for MDT compliance date. There is a draft special provision addressing this item, but Lisa has not had time to review it. Type three barricades and portable sign supports will be the most affected. Lloyd reported that several years ago, by policy FHWA required that any new devices would all be compliant. It never required a drop-dead date recognizing the fact that contractors could amortize equipment out. It is now time to set a drop-dead date. Lloyd said there are a couple of NCHRP 350 approved portable sign trailers. Other portable trailer designs do not need to exactly match current approved designs, but someone should analyze and support that the new design would behave or perform meeting NCHRP 350 requirements. Lloyd thought they could go to a testing house to determine. Stands are also available and there are a couple of proprietary freestanding stands meeting NCHRP 350.

Criteria to Use Lump Sum Traffic Control on Projects

A draft Guidance on the Use of Lump Sum Traffic Control Bid Item was distributed. Paul said there was a previous list generated as a starting point to better define which project types are good candidates for lump sum. Overall, the use of lump sum has been successful and this is to improve and update the list.

Benefits in the use of lump sum traffic control are decreased construction engineering costs, which make more monies available for other contracts. The detail sequence of operations needs to be followed. Doug stated that if a well-defined sequence is in there and if a change is proposed, the cost of the change should be taken into account including the change to the traffic control in the change order. Paul thinks changes to traffic control costs have been included in change orders. Craig added that we need to make sure the sequence of operations is included in the plans. Paul asked Chris if he would put together a breakdown of justified price for review. Doug thinks that lump sum works better for MDT to make sure we get the low bid contractor. The difference ends up being the duration that it takes the project to get built. We are seeing a lot of projects that due to contractors operations, the costs go up. Regardless of how traffic control is paid, (lump sum or by unit), we should be meeting the same standards and requirements set forth in the Specifications, Detailed Drawings and MUTCD

Kerry Gray added that we need to work on standardization of projects between districts. Chris asked if float time could be used? Lisa replied that we are looking at that when it is applicable. Some times of the year work better than others. Most states use combination lump sum.

Cary said the contractors' concern has been heightened in Billings because of an accident. He would like to get a number one agreement for the minutes that safety is the main concern. This is one of the most recurring and nagging issue for the Contractors' Association. It is all about keeping people safe. Jeff Hollenbeck said that traffic control is trying to do for the least amount of money and so the lump sum might be good. Doug thinks that we should try to strive for uniformity regardless of how it is paid. Kevin said it depends on the project manager as to how they approach traffic control. There is so much variability between project managers. Cary reiterated that the fundamental premise is that there needs to be an agreement about safety. Everybody loses if there is a fatality. He thinks we need to realize why we are having this discussion and focus on the real issue. Mark said costs become the focus as the group always considers safety first and foremost. Kevin agreed that uniformity is also a huge issue. Cary reported that there is a debate going on nationally. The number one issue is safety and travel through the work zones. We are seeing an increase nationally of fatalities in work zones. It is a huge issue. Kevin responded that the AGC does have a committee that approached the feds with work zone traffic safety. Paul asked that comments be sent back to him by August 15.

Terry said that things are done on I-15 on Monida are done differently than downtown Butte. Some are necessary and some are not. Doug suggested that MDT look at detailed drawings for urban and low speed areas. Cary asked if they could presume the department will implement lump sum traffic control. Our task is to figure out where it is applicable and where it will work. Kevin added that the Drummond project had detailed plans for the crossover and there were no problems. Kerry stated that they had almost 1000 hours of flagger hours in one job. If the detail plans had told them of a detour they would have done their traffic control differently.

Craig would like all these items added to the guidance paper. Lisa heard traffic control costs need to come down and show traffic control impacts on change orders. The issue of safety was also brought up. We need to account for those areas. Cary suggested that the comments be funneled through him at the MCA and they will amalgamate and forward to MDT. Paul concurred.

Lisa stated that they have been working on design of sequencing. They are going to be doing some training and would appreciate examples of good traffic control plans to use.

Performance of Flaggers on Projects

We need to keep a closer eye on the flaggers and what they are doing versus what they should be doing. Kevin stated that on larger projects when there are a lot of flaggers, he proposed a relief flagger be placed to relieve flaggers. Lloyd if you need 15 minutes per flagger for morning and afternoon, on a 10-hour day you will need to bring them in for 6 hours. Everyone thought this was a good idea. This will be followed up on.

Type II Barricades measuring 24 inches in Width

Mark stated that the traffic control rate schedule only addresses units for Type II barricades measuring four and ten foot in width. They are asking for input to establish a rate for Type II barricades measuring less than four foot. Twenty units have been suggested. Do we want to establish only one rate for Type II barricades regardless of width? Comments should be sent to Mark by August 15.

Portable Water Filled Barrier

Mark stated that due to the type of work MDT is building today, more hazardous roadside conditions occur. He sees a need for increased portable water filled barriers use. He asked contractors to look at using portable water filled barriers; keeping in mind environmentally friendly antifreeze might need to be used also. Chris said it depends on whose product is used as to how the ends might be addressed. Comments are due back to Mark Baum by September 15.

Traffic Control Delays and Adequate Staffing

If work zones are far apart, then the speed limit will be a case-by-case basis. Kevin stated that speed is determined by the operation status. Doug said the corers should keep up with the traffic. Kevin added that the speed limit is also determined by other factors. The speed limit should be left down and get the traffic through the zone. Doug pointed out that driver expectancy is that when nothing is going on they think they can drive faster. Lloyd said speed variances create unsafe conditions. The issue in speed related crashes is speed differential. Median crossovers are being used in close proximity to an interchange. We could be using the existing interchange. Ramps are closed with no advanced signing. Lane closures over holiday periods shouldn't happen. If everyone looked at the original control plan it would really help. Chris said traffic control is set up as directed and should not be a surprise. Lloyd will follow up.

Temporary Traffic Control Signals

Mark is preparing a draft guide for temporary traffic control signals. Chris said it might have already been done. Mark said that we may have a uniformity problem and Mark Wissinger is addressing that problem.

Type IX Reflective Sheeting Implementation Jan 1, 2005.

The implementation of ASTM Type IX Retro-Reflective Sheeting implementation dates was discussed. Follow-up internally will be done.

Unit Sheets

Kevin said sometimes when the sheets have been completed, project manager (PM) changes the unit sheets and says they are not paying for it. He said the paperwork is completed soon enough and that it can be discussed at that time. He thinks we need to work together to solve the problems. Copies should be given to both parties from both parties. Paul said there is a chain of command to follow if there are problems. Early resolution is important.

Follow-up: Paul will research giving copies to subs and will talk to the DCEs about this. Kevin asked that it be a requirement that copies be given to each other. Cary said that all documentation is public information.

Vertical Panels

Kevin said we were using delineators and then went to two-pound posts for post mounted vertical panels. The units have changed; they were 10, then 8, then reset. Lloyd said you could use delineators in appropriate situations. The construction memos are on the web and everyone has access to them. Vertical panels are to be used when there is a hazard like a vertical edge and not to delineate the driver's path. Uniformity for driver expectancy is important. Post mounted vertical panels should be the standard panel to use and portable vertical panels are to be used in short term situations and in cases when the operation is changing fast, the three day rule that is used for portable signs is good guidance. Kevin wants definite criteria as to when they can be used.

Kevin will send a breakdown of the vertical panels for the traffic control rate schedule. Cary suggested this go through a technical committee.

Sequence of Operations per the Special Provisions Traffic Control

Kevin encountered two jobs within the last year where the sequence of operations was not adhered to, which in turn, all but eliminated daily units and created traffic control maintenance with no adjustments allowed in the payment structure for traffic control. MDT stated in the pre-con and in one case prior to the job bidding, that no deviation from this plan would be accepted. Three to four weeks into the projects, the Project Manager changed the sequence of operations. In both cases, their devices remained in place 24 hours a day, seven days a week, while they maintained them daily for free. The devices should have been removed at the end of every shift and replaced the following day. This is not about anticipated profits, but more importantly a maintained item. He proposed

\$300.00 per day maintain fee, for approximately four hours a day, for one person and one vehicle, depending on the size of the project.

Paul stated the traffic control costs should be evaluated when changes happen to the contract and included in the change order. Lisa said if we are changing the sequencing it should be addressed. Doug added that in one case MDT provided a maintenance fee. We are not going to do daily maintenance fees. If there is a total scope change, it is something that should be looked at. Lloyd said a daily maintenance fee is fairly common in other places. Chris would be more concerned on a unit project. Paul said it should be looked at if it is a change in the contract. Doug reminded everyone that we need to look at uniformity. Paul said we have a chain of command to use when there are issues that are unresolved. Paul will bring this item up at the DCE meeting.

Miscellaneous

Lloyd and Mark were in Butte and Missoula districts for a review. They saw some use of signals in Dillon that made for some tough positioning of signal heads. Merging tapers on projects seem to be placed shorter than what is required. It seems that 500 feet is what is most commonly used. Type III barricades were already discussed earlier regarding their need to be NCHRP 350 compliant in the near future. MDT is also seeing stop signs on portable mounts. This is a concern as the signs have high importance and are susceptible to vandalism and being displaced by wind. Stop signs need to be post mounted.

Lloyd and Mark plan to tour all districts to review work zone signing. They will visit all districts and put together into one document. They will let the Districts know they are coming out.

The new MUTCD is out.

Shane asked if you should be paid if you change signs in a permanent sign with a bracket. Paul said no, you should be paid for permanent installment once unless you put another sign in. This is the Install/Remove signs on the rate schedule. It was requested to send out clarification on what this item is to be used for.

Paul will set the next meeting and send everyone draft minutes.

Paul Jagoda Date

Sandy Waddell recorded the minutes.

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Action Items from Agenda
Traffic Control Task Force
7-28-04 (1:00pm-4:30pm)

1. Introductions:
2. Reasons for this meeting:

3. MUTCD update on arrow boards.

Lloyd Rue discussed the changes to the use of arrow boards in the new MUTCD. These changes would eliminate arrow board use for crossovers.

Follow-up: MDT needs to determine what they will do with these changes and how they will affect our detailed drawings. MDT can also team up with other states and try to get this requirement changed in the MUTCD.

Leads: Mark Baum & Lloyd Rue.

4. Drop dead date for traffic control devices to meet NCHRP 350.

Follow-up: None needed.

5. Criteria to use lump sum traffic control on projects.

See attachment "Guidance on the use of Lump Sum Traffic Control Bid Item".

Follow-up: Receive comments from MCA by July 15 and then finalize this guidance.

Lead: Paul Jagoda

6. Performance of Flaggers on projects.

There has been a voiced concern about the performance of flaggers, following are some issues:

- Proper uniforms and visibility of flaggers.
- Personal vehicles next to flagging stations.
- Request to pay for flaggers that are not needed.
- Use of improper flagger paddles.
- Adherence to the requirements set forth in the Flagger Handbook.

Follow-up: Research the possibility of adding a relief flagger to projects that have 5 or more flaggers in operation.

Lead: Mark Baum

7. Type II barricades measuring 24 inches in width.

The payment for Type II barricades is being reviewed and will be updated to the justified rate.

Follow-up: Once the comments are received from MCA by July 15, the updated rate will be forward to the Construction Engineer for approval and then to be added to the Traffic Control Rate Schedule. Send Kevin Kitchin the breakdown for the justified price of 20 units.

Lead: Mark Baum

8. Portable water filled barrier.

Discussion on incorporating the use of portable water filled barriers in contracts.

Follow-up: Continue researching and determine the most appropriate way to include them into contracts.

Lead: Mark Baum

9. Break

10. Traffic control delays and adequate staffing to fulfill project traffic control needs.

Areas in traffic control to improve on were discussed:

- Speed variances (unpredictable) are what most accidents are caused by.
- Areas that are signed for work zones but do not have any construction underway.
- Keep the traveling public going through projects as efficiently as possible and not lower the speeds unless it is justified.
- Assure there is adequate staffing by the traffic control subcontractor to fulfill the project's needs.

Follow-up: Review specification 618.03.

Lead: Lloyd Rue

11. Type IX Reflective Sheeting implementation Jan. 1, 2005.

Follow-up: Modify the current special provision for the implementation of Type IX without incentives.

Lead: Paul Jagoda

G19 Incentive for Using ASTM Type IX and III Retro-Reflective Sheeting (Revised 4-12-04)
(Use on all projects with Traffic Control Devices)

1. INCENTIVE FOR USING ASTM TYPE IX AND III RETRO-REFLECTIVE SHEETING (Revised 4-12-04)

Use traffic control devices that meet the ASTM retro-reflective sheeting requirements below.

Ensure all traffic control devices meet these requirements for all projects let after January 1, 2005.

Before January 1, 2005, a 1.05 pay factor will be applied to the final pay quantity of Traffic Control Devices-CB (Units), or Traffic Control (Lump Sum), on contracts under the following conditions:

The following traffic control devices in the Traffic Control Rate schedule use ASTM TYPE IX Retro-Reflective sign sheeting exclusively. Provide orange sheeting that is fluorescent; all other sign colors need not be fluorescent:

Group 1 through 15, Group 18 sign panel, Group 19, sign for Group 25.

Any other work zone sign face (e.g. flag person paddles, pilot car signs, etc.) not specified in the ASTM Type III requirement below.

The following traffic control devices in the Traffic Control rate schedule use ASTM TYPE III retro-reflective sheeting:

Group 17, 23, 27 and 28.

All cones and tubular markers.

Provide a manufacturer's certification that the sign sheeting used meets ASTM TYPE IX and TYPE III Retro-Reflective requirements. Contracts before January 1, 2005 not exclusively using Sheeting as specified above for the entire duration of the contract will not be eligible for the 1.05 pay factor.

12. Unit Sheets.

See letter from Kevin Kitchin, attached.

The reason for traffic control unit sheets having a signature by the subcontractor and MDT is to help assure both parties meet and discuss the units at the earliest time possible and if there is any disagreements deal with them early. Any disagreements can be elevated through the chain of command: EPM→DCE→DA→Claim Process.

Sometimes the traffic control units sheets are changed after they have been agree to without letting the traffic control subcontractor know about these changes.

Follow-up: Make this an agenda item at the next DCE meeting. Determine if the crews are providing copies of the unit sheets to the subs in a timely fashion.

Lead: Paul Jagoda

13. Vertical Panels.

See letter from Kevin Kitchin, attached.

Kevin Kitchin will provide a justified breakdown of the costs associated with vertical panels to Paul, this is to include material costs, labor costs to install and remove, and the number of uses that you get out of them. It will then be reviewed to determine if the rate schedule needs to be updated.

Follow-up: Receive breakdown from Kevin and determine if changes need to be made to the rate schedule. Make available the guidance on the use of portable vertical panels.

Lead: Paul Jagoda

14. Sequence of Operations & a maintenance fee.

See letter from Kevin Kitchin, attached.

Concerns were voiced about having changes made to the sequence of operations but not getting reimbursed for changes made to traffic control and it is not uniform statewide how this is being treated.

When changes (i.e. sequence of operations) are made to the contract, the traffic control costs should be evaluated and changes included in the change order for increased or decreased costs to traffic control.

The idea of a maintenance fee included in the rate schedule was tabled. This committee reviewed this item in depth about 1 year ago and the decision was made to not include a maintenance fee.

Follow-up: Place this item on the DCE meeting agenda.

Lead: Paul Jagoda

15. Miscellaneous Items:

- Portable signal use guidance:

Follow-up: Develop guidance to be used statewide.

Lead: Mark Baum

- Review the 3-day requirement for portable signs in the traffic control specification.

Lead: Doug Wilmot

- Clarification is need on the use of the traffic control rate schedule item of “Install or Remove signs on post mounts”.

Lead: Paul Jagoda

- When traffic control devices reach 115%, the administration is not uniform.

Lead: Paul Jagoda

G12 Traffic Control – Devices (Revised 5-7-03)

(Use on all Contracts with TC Devices bid by Contractor)

2. TRAFFIC CONTROL – DEVICES (Revised 5-7-03)

The Traffic Control - Devices item will be bid competitively on this contract.

In the event that the actual quantities required for Traffic Control – Devices exceeds the plan quantity on the project by more than 15%, the price paid per unit for all quantities over the plan quantity will be the lesser of the unit price bid or \$0.80. A change order will be written if the actual quantities exceed the planned quantity and there is a change in the unit price.

- Schedule next meeting: Paul Jagoda

16. Adjourn:

Draft
Guidance on the use of Lump Sum Traffic Control Bid Item
7-28-04

The previous list was generated as a starting point to better define which project types are good candidates for lump sum. Overall the use of lump sum has been successful and this is to improve and update the list.

Benefits in the use of lump sum traffic control are decreased construction engineering costs, which make more monies available for other contracts.

This guidance includes general types of projects, flexibility in its use is essential and the department will determine on a case-by-case method what projects are appropriate for lump sum traffic control. Some items that will be reviewed in making this decision are:

- Well defined scope of work.
- Low risk for major changes.
- Well defined “sequence of work” special provision to include traffic control requirements.
- Well defined use of detours.

Lump sum projects will have the traffic control rate schedule in the contract to cover additional traffic control for work that is outside the scope of the contract. Following is a list of project types included but not limited to, that are good candidates for the lump sum traffic control bid item:

1. Pavement preservation projects (overlay, chip seal, crack sealing).
2. Bridge projects where the cost of the bridgework equals or exceeds 75% of the contract amount.
3. Chips seal projects on all projects excluding urban locations.
4. Urban projects that close a road section and have a defined detour in place as defined by the sequence of the project and the traffic control for the detour is well defined.
5. Multiple small work area projects with defined work areas such as guardrail, sign or signal installation work.
6. Mobile operations such as rumble strip and pavement marking installation.
7. Phases or portions of a project that can be well defined. Following are some examples:
 - Chip seal
 - Crossovers
 - Intersections
 - Defined portions that have detours.
8. Interstate projects set up for 2-lane 2-way detours.
9. Other projects determined justified for lump sum traffic control by the department.

Areas to continue improving on for projects that include lump sum traffic control in the contract:

- Detailed sequence of operations.
- Traffic control sequence of operation or details.
- Defining what is outside the scope of the lump sum bid item for specific projects.
- Defined use of detours.

As we gain experience in the use of lump sum traffic control, this guidance will be continually reviewed and updated.